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anatomy of the shining bodies in Porichthys. He concludes that these are true phosphorescent organs.

Thus far no specimens have been found to be luminous in the aquarium, and light has not been developed through electric stimulation, or by excitement through ammonia.

D. S. J.

Absence of Retinal Pigment in the Dogfish. — In his study of the retina of the common dogfish (*Mustelus vulgaris*) Schaper[1] has made the noteworthy observation that the retinal pigment cells, which in most vertebrates are loaded with dark pigment granules, are in this animal absolutely devoid of such particles.

P.

Pupa-Grafting in Moths. — The method of grafting young animals, as devised by Born for tadpoles, has been applied by Crampton[2] to the pupæ of moths. An injured pupa at best regenerates sufficient integument to cover the wound. Parts of two longitudinally split pupæ joined in natural proportions failed to unite, but anterior and posterior portions cut at any level united. Compounds slightly smaller than normal or enlarged by the insertion of a ring failed to coalesce. Fragments grafted on whole pupæ formed exactly those portions they would have formed had they remained on the original pupa. Pupæ are easily united sidewise or endwise, but in these, as in all other cases, the union is that of the integument and superficial parts only. The results of these experiments on the colors of different species are especially interesting. When individuals of two species having different colors were united so that their hæmolymphs mingled, the outcome was almost always a double animal whose colors were normal. The same result was obtained from united males and females in species with differently colored sexes. The colors are probably produced, as a rule, through the action on the hæmolymph of a localized internal factor such as the "ferment" cytoplasm assumed by Mayer.

P.

Amitotic Followed by Mitotic Cell Division. — The observations of Gerassimoff, that cooling would convert the mitotic division of Spirogyra cells into amitotic, and of Pfeffer and Nathanson, that a temporary use of ether would call forth in the same plant a temporary amitotic division, led Häcker[1] to subject developing eggs to the action of ether to ascertain whether their mitotic division could be converted into a temporary amitotic one. The results of these experiments are that when the eggs of Cyclops are subjected to the action of five per cent ether for from two to three hours, they begin to divide by a process many steps of which have all the appearances of amitotic division, and that after being returned to fresh water they reassume normal mitotic division. Cells, then, after dividing by what to all appearances is amitosis, may return to mitosis. Till further study proves absolute identity the author prefers to call this induced amitosis *pseudoamitosis*.

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[1] Schaper, A. Die nervösen Elemente der Selachier-Retina in Methylenblaupräparaten, *Festschrift zum siebenziegsten Geburtstag von Carl von Kupffer*, 10 pp., 3 Taf. Jena, 1899.

[2] Crampton, H. E. An Experimental Study upon Lepidoptera, *Archiv für Entw.-mech.*, Bd. ix, pp. 293–318, Pls. XI–XIII, 1899.

P.

A New Unattached Hydroid. — In a paper on Woods Holl Hydroids, L. Murbach[2] redescribes *Corynitis Agassizii* and its medusa Gemmaria, and gives an account of a very remarkable unattached hydroid. It is represented by a single unbranched polyp of the Tubularian type with two circles of tentacles. A primitive perisarc envelops the hydrocaulus, at the end of which polyp buds are given off. Sexual reproduction takes place, the gonophores being between the two circles of tentacles. The polyp moves slowly from place to place and may be caught floating in quiet water. The author names it *Hypolytus peregrinus* and forestalls the systematic reviser by the statement: "Should the name here proposed for this new genus be preoccupied, I propose instead Gonohypolytus."

P.

Hydra Grafts. — The grafting of hydras has been studied by H. W. Rand.[3] Lateral grafts do not persist as permanent abnormalities, but either constrict and separate from the stock or are resorbed by it. If the graft is large or has tentacles, it, as a rule, eventually separates from the stock; if it is small and without differentiated parts it may be resorbed. All the pieces that were resorbed were much larger than the minimum piece capable of regenerating if not employed as a graft. Lateral grafts differ from buds in that they do not separate from the stock as readily as buds do

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[1] Häcker, V. Mitosen im Gefolge amitosen-ähnlicher Vorgänge, *Anat. Anzeiger*, Bd. xvii, pp. 9–20, 1900.

[2] Murbach, L. Hydroids from Woods Holl, Mass., *Quart. Journ. Micr. Sci.*, vol. xlii, pp. 341–360, Pl. 34, 1899.

[3] Rand, H. W. The Regulation of Graft Abnormalities in Hydra, *Archiv für Entw.-mech.*, Bd. ix, pp. 161–214, Taf. V–VII, 1899.